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and binds them into one harmonious system. Omar, the astronomer-poet, may have had such a thought in mind, when he wrote:

"Yes; and a single Alif were the clue—
Could you but find it—to the treasure-house
And peradventure to the Master too;

Whose secret presence, through creation's veins
Running quicksilverlike eludes your pains;" etc.

When Plato's advice is followed and the "mutual relationships between our sciences" are understood we may perchance find this clue, and having found it be surprised to discover as great a simplicity underlying the whole fabric of natural phenomena as exists in the construction of a magic square.

C. A. BROWNE, JR.

NEW ORLEANS, LA.

THOUGHTS ON TIME, SPACE, AND EXISTENCE.*

I.

All existence is one. Every thing that is, is part of the All. That all of the parts are adjusted to each other, and work in harmony, proves the relationship of all the parts to the whole, and the unity of the All.

Existence extends, and existence endures. While it endures there is an unending and unceasing succession of events occurring.

When we mentally think away all of the features of existence except the feature of extension, that feature which remains when all the rest are thought away, forms, in consciousness, the conception we term space. Space, then, is abstracted mentally from reality, and in so far is a mental existence. But in reality itself, space, or the property of extension can not be separated from existence. We think of it as a thing in itself, or by itself, but this is not the

* A great many of the ideas expressed in this article have been obtained by a study of the philosophical works of Dr. Paul Carus, and I wish to give proper credit for numerous expressions and quotations which I can not well avoid using. Prior to my study of his writings, my philosophical studies had been confined mostly to the works of Herbert Spencer. While I had in a certain degree noticed that he overlooked the importance of the formal and the subjective features of existence, my ideas along these lines were very hazy and undeveloped. I supposed, that in his philosophy, finality had indeed been reached. However, when I began to study the works of Dr. Carus, a new world was opened to my view.

case. It is merely the property of extension belonging to actual existence, mentally separated, or abstracted from the All.

Duration, of itself, does not exist in reality. It is the property of existence, by which the All endures. When we mentally abstract or separate from existence the feature of duration, and think away every other feature of existence, that which remains, forms, in consciousness, the conception we term time. Time, however, does not exist, and can not exist as separated from existence. It is not an entity of, or by itself. It is abstracted from that feature of existence which events occupy, and bears the same relation to events that space does to the material element of existence. By material element I do not here mean ponderable matter only, but the ether as well.

Events, however, are always a motion of some kind; therefore, time bears the same relation to motion that space does to matter. Time, to consciousness, seems to be that which events fill; space, that which matter fills. Time is the blank form which events fill, with the events mentally removed. Space is the blank form which matter fills, with the matter mentally removed. In so far, time and space are mental forms, or forms of thought.

Time, then, is an abstract from motion; and space is an abstract from matter. But motion and matter do not exist in nature as separated from each other, or from the rest of existence. There is no motion except as something moved, and this something we call matter. There likewise is nothing moved without there is motion. Neither does any matter exist that is not in motion. There is thus no motion without matter, no matter without motion.

The abstracts, time and space, must then be intimately connected, as they are both abstracted from these two intimately connected features—or, rather, abstracts of existence; for we can truly say matter and motion are both abstracts from one reality.

Let time be represented in consciousness by a straight line. It must be remembered, however, that this line is a symbol, and is not actual time itself. However, in dealing with time, it seems necessary for the sake of simplicity, to use a mental symbol to represent it; owing to the difficulty of dealing with actual time itself, and of representing time in consciousness as it actually is.

Time has extension in one direction only. This is also true of a straight line. We can therefore say each has dimension in one direction; each is a system of first degree. The line representing time may be represented as in motion, passing continuously in the

direction of its length. It must also be represented as moving with a uniform and steady motion.

Time being abstracted from motion, can be measured and in fact is measured, by motion of some kind. Dr. Carus says, "Time is merely the measure of motion." We can also say motion is the measure of time. The simple means of a swinging pendulum is one example. If we represent this motion by a point moving or oscillating in space in a straight path, each portion of time will be represented by a straight line. Now, as each portion of time can thus be represented by a straight line of finite length, all of time can be represented by a straight line of infinite length. This line is, however, formed one portion at a time, in regular succession: therefore, we must either imagine ourselves in motion, traveling along such line; or else imagine ourselves at rest, and the line in motion in one direction continuously. Now, by mentally reversing the direction of the motion of the line, or our motion in traveling along such line, we can mentally bring all portions of it that have already passed, into the field of our consciousness.

But motion means not only something moved, but it means change of position. Now position is determined by matter, an abstract of actual existence; so that any line used in representing time, must bear a distinct relation to matter. It must possess dimensions, although but in one direction.

Time can best be represented in our consciousness by such a line; and as this line bears distinct relations to actual time, the conclusions reached by representing time by such a line, should be true in regard to actual time.

Space is of infinite directions. Time is of but one direction. To determine position in space, three coördinates are necessary. Space is then a system of third degree. To determine location in time, but one is necessary. This one is the present. Time is then a system of first degree. Time being represented by a straight line, some particular point in this line marks the present.

This line being represented in motion, moving continuously in one direction, those portions of the line which have at some time been marked by the point called the present, we designate the past. Those portions of the line which will sometime be marked by the point called the present, we designate the future. There is a difference in the past and future; this difference is a difference of succession. In this line no part can be substituted for any other part. In other words, this line is not homogeneous. Any por-

tion of the line which first passes the present, we will designate as "before"; and that which succeeds it, we will designate "after." The difference between before and after, is an actual difference in nature, and not a difference due to the nature of thought. It is a difference of relation; but relations between things are just as real as material things themselves. It is therefore not a difference within our own minds. This can be verified easily by reversing some simple process; so that the first part of such process be postponed until after the last part be executed. The impossibility of such a proceeding is at once apparent. For example, iron must be heated before, and not after it is welded; it must be melted before, and not after it is cast; a hole must be drilled before, not after a pin can be passed through it; etc. This difference then is only relational, but it is actual and real.

As all time must be filled by events, all time that has passed has been filled by events, or occurrences. If there could have been a beginning of events, then there must have been a beginning of time. Events, however, being always a motion of some kind, a beginning of time or events would be a beginning of motion.* But motion and matter being both abstracts of one reality, if there was a beginning to motion, there must have been a beginning to matter also; and consequently a beginning to space. Space and time are intimately related to each other: for instance, "Space is the possibility of motion"; "Time is the measure of motion." They are both thus intimately connected with motion; but motion can exist only as something moved; therefore, they are both intimately related to matter, to that feature of existence of which dimensions or space is a property. In fact no feature of existence can have had a beginning, unless all of existence had a beginning. The features of existence are so intimately related and connected, so work hand in hand as it were, that they are in fact a unity; so that what has been true of any one feature in this respect, must have been true of all; and all features of existence must partake of the same destiny. Annihilation for any one feature of existence, must mean annihilation for all.

If there was no beginning to time, and if there can be no end

* Causation has been shown by Dr. Carus to be always a motion. (See chapter on "The Problem of Causality," *Fundamental Problems*, page 79.) Therefore if motion or time had a beginning, causation also had a beginning. The first motion was the First Cause, and all others followed. Behind this must lie a reason for the first motion or the first cause.

to time, then it is truly infinite, and without end in either direction from the present.

If this be true, and the world stands at the point of the line called the present, then there is an infinite past in one direction, and an infinite future in the other; two infinities of the same thing, each without end or limit, yet they do not interfere with each other. Neither in any way limits the other, so as to prevent its being infinite. The thought has occurred that possibly the distant future overlaps the distant past, as it were, in some manner; and that the future and the past are one in some way. This can be imagined only by thinking them as being something like a circle. However, the actual and real difference between before and after makes this impossible.

Although both past and future are of infinite duration, and neither limits the other in any manner that prevents its being infinite; yet if we look at this question from another standpoint, the future limits the past at the point called the present, and vice versa. The present is a finite terminus of both; it is a limit beyond which neither can pass without passing into the other. If we mentally remove this terminus, then both future and past are one infinity.

However, if time as a whole is infinite, both future and past are infinite. If we halve infinity, infinity still remains. It can also be said that if we divide infinity by one hundred, or by one million, or by any number no matter how great, the quotient obtained will still be infinity. This means, practically, that no matter into how many parts any infinite feature of existence be divided, each part will still be infinite; or, in other words, as great as the whole was before it was divided. This means, also, that the sum of any number of infinities would be only infinity. The parts are individually as great as the whole, and the whole is no greater than any of its parts. Then nothing is gained, or no increase made, by adding one infinity to another. Neither is any decrease made by any division of infinity or subtraction from it. Then, no matter to what extent the division into parts be carried, we never can arrive at a finite part. If this be true and infinity can not be divided into finite parts, how can finite parts however great their number, make up infinity? No addition of finite parts can make infinity; for infinity is not a number, correctly speaking; it is something else. We must say, with Dr. Carus, that infinity is not an accomplished process; neither is it a thing, an objective something; but merely a process that never can be finished, just as the fraction $\frac{1}{3}$ can never be expressed

as a decimal. "It is a process that from its nature is incapable of being finished."*

Then, to divide infinity into finite parts, we would have to divide it into more parts than any number; which could only be an infinite number of parts. We should have to divide infinity by infinity; but as this is a process that can never be finished, we can not mentally make such a division. However, it would seem that nature has actually made such a division of the infinite past into finite parts; that nature in this case has actually accomplished, or finished an infinite process. For if the portion of time antedating the present is infinite, it has certainly been accomplished. Each finite event that has made up or filled past time, must have existed finitely when it occurred.

Now here occurs one great difficulty. If past time has been infinite, how did events ever arrive at the present? To have done so infinite time must have actually passed. The present is a terminus,—a finite end; and if we reverse the process and mentally move backward from the present towards the remote past, it should be possible to arrive, mentally, at each event that has filled or made up time throughout this infinite past. Now, as each succeeding event at which we arrive must have preceded the one just passed, it is evident that all portions of past time, whether time be infinite or not, must have been present at some stage of existence. The events which make up all portions of past time must have actually occurred, must have been real, and must have existed finitely, and one at a time. It seems evident to me that if by moving in this direction, no limit can ever be reached; and if we can never arrive at a point where these events began, when in reality time was moving in the direction it really is, or in other words was accomplishing the past, the limit called the present never could have been reached. If nature could accomplish or complete this process, moving in one direction, we ought to be able to complete the process of mentally journeying over it, in the reverse direction. In other words, past time is just as long whichever way we mentally journey over it. If no limit can be reached by moving in one direction, then it seems no limit could be reached by nature itself moving in the other direction. If, no matter how far backward along this line we mentally journey, we never can arrive at a point where time began or commenced,—if, in other words, it never commenced; then how, in reality can anything, or rather, any feature of existence, finish

* *Fundamental Problems*, Pages 159, 161, and 169.

a journey it never started or commenced? More correctly speaking, how could time or events finish a process which never was commenced? But, however, as a limit has been reached in one direction, it suggests the idea, at least, that a limit might be reached in the other. In fact, it seems that the present, or rather the point of time marked by the present, could have been arrived at, only by events that make up time having a beginning. Can it be that existence, as we know it, is not eternal?

Of course, if we do move along the line, backwards, towards the past; no matter how far we continue the mental process, when we mentally reverse the motion, we can return to the point of starting, which is the present. A mental process which we can accomplish in one direction, we can of course accomplish in the reverse direction. But if time is infinite, no matter how far from the present we had mentally moved, and no matter how far from the present the point reached was located, yet infinite extension lay beyond that point. The extension still lying beyond that point was just as great as it was before we had mentally moved to that point. We had reduced the distance none. And no matter how far this process had been continued no terminus could have been reached. Now if time is infinite, we never can reach mentally, such a terminus; because it is an unending distance. There is no such terminus to reach. How could nature have accomplished or completed a process, in moving in one direction, which it never could complete, if moving in the reverse direction? How can nature have actually passed over an unending distance, or rather, have completed an unending process?

If nature could reverse its direction, and move backward over past time, the journey should be just the same as nature is to make in moving over future time. If a terminus could be reached in the one case, a terminus probably can be reached in the other. But if nature could not reach such a terminus moving backward, I can not see how, in reality, it ever accomplished the process moving in the reverse direction as it did, and arriving at the present. This would seem to indicate that the process of the past definitely commenced or had a beginning.

The future may be regarded as a process in which there is the possibility of unlimited duration. But the past is a process that has been accomplished. It is definite and has occurred. It is a fact and has been actual. No portion of it is a mere possibility, but all portions of it have actually been realized. No matter how remote

any event that made up past time may be, yet it was just as certainly accomplished as any more recent event. Were this not true, and had time halted and not completed any event in the chain of the past, the present would not be here. The mere remoteness then of any event whatever, in no way detracts from its reality, or its actual existence.

Reckoning from the present, whatever the distance may be down the line of the past, whether infinite or finite, the process of the past up to the point marked by the present is certainly an accomplished process. Now as infinity means, simply, a process that never can be completed, then it would seem that the past can not be infinite. We have, then, in dividing the past from the future, divided time into two parts, one of which seems not to be infinite. Now, if infinity can not be divided into finite parts, by dividing it by a finite number, would not the above result indicate that time as a whole is possibly not infinite?

There can be no time without motion, and no motion without matter as before shown. Now if matter had a beginning, time also must have commenced with matter and motion.

As a fact, it seems there is little doubt that ponderable matter had a beginning. The ether may not have had, as it seems to exist without form; but the ultimate particles of the elements have form, and are evidently what they are simply on account of the form they possess. Now every thing that has form must have been formed, by some formative factor. This would mean that the atoms of the elements were formed,—had a beginning.

Let us take the atoms of any one element. They are so absolutely alike that any one could be substituted for any other, and there would be no change. This substitution, so far as we know, could in no way be detected. The number of the atoms of any one element in the universe may be regarded as being so vast that to our minds it would seem infinite. Yet all this vast number of atoms are absolute duplicates of each other.

If all these atoms never had been formed but had existed always without a beginning, what are the mathematical chances of any two of them being alike, to say nothing of all of them being alike? As practically an infinite number of forms could exist, each atom would have one chance of existing in each one of an infinite number of forms. This means that each atom would only have one chance in infinity of existing in any one particular form. There would thus be only one chance in infinity for any two atoms to be

formed exactly alike, much less the almost infinite number of each element that are absolutely alike.

This likeness between the atoms can not be by chance or accident; it can be only by there being a reason for it. This reason must be that the same formative factors produced all the atoms of the same element. Likeness means relation; and relation in this use of the word, means a common origin or parentage, as it were.

If the new electronic theory of matter be correct, then the probabilities are that each atom consists of a group of electrons, held together in a certain form; that the electron with its surrounding field of force, is the primordial unit of matter from which the elements were formed. But if this be true—and we have here penetrated to the region where it seems force and matter are one—yet each electron is of absolutely the same form as are all the other electrons that make up force, or rather, energy, and matter. The likeness of all in their case can be explained only on the ground that they were formed; that they had a beginning.

Any concrete thing, or any portion of existence possessing form, must have had a beginning; and it must also pass away. The existence by which any concrete thing is actualized is permanent, but the formal feature is subject to the law of eternal change. It is the formal feature of things that appears and disappears. The appearing of form is always caused; and when any number of things have the same form, they have originated from the same cause. All things possessing form must have originated. They must have commenced, as such concrete things, at a definite time.

Should force and matter be derived in some way from the formless ether, by its taking on or assuming form, or by form being impressed upon it in some way, I think this would not necessarily mean a beginning to time. The ether is able to transmit motion and, it would seem, bears some relation to motion. It must therefore bear some relation to time.

Time is abstracted from motion, but time and motion are not identical. It is true that there can be no motion without time, and no time without motion, as we know them. There is a relation between these features of existence but they can not be identical. The momentum of a moving body varies directly as the weight or mass of the body moving; but it also varies as the square of the velocity. This would indicate that velocity is the greatest factor in the momentum of a moving body. But velocity is made up of two elements, the time element and the space element. The time

element of motion is thus shown to be very real; and is as independent of motion, as motion is of time. Yet the relation between the two is so intimate that the non-existence of one means the non-existence of the other.

Either time had a beginning, or it had not. No third possibility can be imagined. Time is merely one feature of the All-existence. To say that time had a beginning or that it had not, simply means that events had a beginning or that they had not. Either events did commence, or there has already passed an unending chain of them.

To say that events had a beginning, is making a statement utterly beyond the power of the mind to realize in consciousness. The first thought that occurs when making such a statement, is that there was a time when events commenced. This supposes time already existing when events began, which is an absurdity; as there can be no time where events are not.

It is also beyond the power of consciousness to realize the statement that events are part of an infinite series, that never commenced, but always was; for each event was a transitory occurrence. None of them could be permanent, therefore, any series of them would seem to possess this transitory character. Such series would seem not to be permanent, or rather eternal. Each finite event that makes up the series of the past, must have existed, must have been real, and must have required duration to exist. Each by itself must have commenced, endured, and terminated. Then if *all* the events of this series commenced, did not the series also commence? If there can be *no* event of this series that did not commence, how can we escape the idea that the series commenced? Evidently we can only escape this idea, by imagining more events in this series than the word *all* can express.

However, no matter what the difficulties are, the present is here. Now, in fact, all portions of past time were the present as they passed; and the present has not been reached, but was always here and moved along with time. Dr. Carus, quoting from Schopenhauer, says, that there are not three times, past, present, and future; there is but one time, which is the present, and it is always. This is true from the point of view where the whole of eternity is viewed as one. However, events occur in a succession. Certain events precede others. There is a difference in nature between before and after. This difference is actual and has an objective existence. Were this not so, as before shown, processes could be reversed.

When we speak of past time, we mean the feature of duration abstracted from events that have actually occurred. By the future, we mean the feature of duration abstracted from events that are to occur. Events that are to occur are just as real, just as actual a part of existence, as events are that have already occurred.

When we speak of the present, we ordinarily mean that portion of duration in which events are in process of occurring. However, if we analyze our conception of the present for a moment, we must conclude that the present has no duration; it is not a portion of time correctly speaking. If it were a portion of time, we should be able to determine how long a period of time constitutes the present; whether a minute, a second or a fraction of a second. We should have to place a limit somewhere, which would be wholly arbitrary; and if we gave it any finite length or duration, certain portions of it would be already passed, and certain portions of it would lie in the future.

As the present has been always, we must represent it as moving along over all portions of time; as a point without dimensions, marking position or location only.

Then that which we call the present, can in reality have no more dimensions than a geometrical point has; and if we say that the present has no dimensions, which means that it has no duration, it is not, properly speaking, a portion of time. Time has duration; and any portion of time must have some duration. If the present has no duration, merely marks position as it were, it merely divides the past from the future; it divides the events that have occurred from the events that are to occur. Each event, as it occurs, passes from the portion of the imaginary line where are the events that are to occur, to the portion of the line where are the events that have occurred. A line has dimensions in one direction only; time has duration in one direction only. A point merely marks position in a line; the present merely marks the dividing position between the past and the future.

Whether time had a beginning, or whether it had not, we can not decide positively; but we can decide that which seems to our minds most probable. I have sometimes been inclined to the belief that events as we know them had a beginning. That existence, as known to us, with its features of time, space, matter, energy, spirit or subjectivity, the formal and the relational, had a beginning. That it possibly originated from a form of existence utterly unknown to us; a form of existence where the word "form" hardly applies,

as there could have been no formal then ; an existence where matter, energy, time, space, and all features of existence as we know them are not. An existence where the word "existence" must be used for want of a better word, but that which is meant is something other than existence as we know it.

If existence had a beginning, we must think of it in this manner ; for we can not imagine that it could arise from nothing. Of course, if a beginning did occur, an end can also come to existence as we know it. Then time and space will cease to be, and so will all things that are actual and real.

However, in spite of the difficulties herein mentioned, it seems to me, most probable that time is truly infinite or eternal, and did not have a beginning ; that if it did have a beginning which means that existence had a beginning also, in order to comprehend this statement we should have to be able to mentally annihilate all existence, which would include our faculty of reason ; and we could therefore in no way reach such a conclusion.

II.

As before stated, space is abstracted from the material element of existence. We mentally think away all of the qualities of existence, except that of extension. That which is left we term space. It does not exist in reality separate from other existence. It is merely that property of existence by which it extends. Space is filled with existence as we know it. Matter together with the ether fills all space. We can find no space empty of both.

Space then seems to contain all existence, material or otherwise ; including time or duration, events, as well as the formal and the relational, together with all the laws of existence. But, as Dr. Carus says, we must not think of space as an empty box containing existence, as a thing-in-itself. It is merely the property of extension which existence possesses. He also says it is the possibility of unlimited motion in all directions.

If time is merely the measure of motion, space must likewise be the measure of matter ; and as space is a mental abstract from the material feature of existence, there can be no space, except as there is existence filling it. Space means dimensions. There can be no dimensions, except dimensions of something—of actual existence. A nothing could have no dimensions, neither could it have any other attributes, features, or qualities. It therefore could not exist, or if it could it in no way could be known to us. In fact, if it existed, it

would be a something. There can be no region outside of space, no border line beyond which lies nothing. Nothing could in no way bound space, or existence. To do so, dimensions would be required. As a nothing can have no dimensions, space—or, more correctly speaking, existence,—can not be bounded by a nothing.

Most words have meanings because they represent an objective reality. The word “nothing” stands for no objective reality or existence. It is a word to express the non-existence of things that are. Now the non-existence of any thing that is, is an impossibility, an absurdity.

When we speak of nothing, we ordinarily mean space with all matter extracted or removed therefrom. Now this is an impossibility; but were it possible to entirely remove ponderable matter from such a vacuum, the ether would still remain. Also, were it possible to produce a vacuum in which there was neither matter nor the ether, we should still have space or dimensions remaining; neither could we remove from such a vacuum, time, the laws of mathematics, the action of gravitation, or any of nature's laws. All of these are parts of existence, and are as actual and as real as are the other features of existence. They are not material, it is true, but they are just as real as matter. Time and space are something and not nothing. If time and space were nothing, we should, as Spencer says, have two different kinds of nothing, which is an absurdity. The ether also is as much an actual existence, as is that feature of existence which possesses mass, gravitation and inertia, and that can be affected by friction.

It may be regarded as proved that the ether exists everywhere; not only in the spaces between the stars, but also penetrating the actual atoms of matter. That is, the ether and material atoms actually occupy the same space at the same time. It is as if the ether were something like a condition, rather than like an actual material as comprehended by our consciousness. Matter can move through the ether and meet with no resistance; because there is no contest for space or position, as it were, between ether and gravitational matter, both being able to occupy the same space at the same time.

Now the ether is everywhere; and as before stated, it can by no possible means be removed from any portion of space, any more than time, dimensions, or the action of gravitation can be removed from space. No vacuum can be made void of the ether; but if such a thing were possible, we should not have a true nothing, for space is something. A true nothing must be void of space as well as of

the ether, and therefore can not have dimensions; for if it did have dimensions it would be a something. If we could remove the ether from a portion of space, so as to form a void, this void would be bounded by walls of ether; but if this void were nothing, having no dimensions, the walls of the ether would still be in contact, which is an absurdity. It is plain that dimensions, being an attribute of or abstract from that which actually exists, can not therefore be possessed by nothing; and as nothing can not have dimensions or any other feature of existence, it must be a non-existence, a creature of the fancy, an absurdity, an imaginary annihilation of that which is.

Further, if a nothing can possess no dimensions, it can in no way limit actual existence. An infinite number of nothings, if they existed in the ether everywhere, could not make themselves known; and requiring no room, the ether would not be displaced, but would contact itself at all points. Neither could a nothing in any other way be known or detected by any form of existence, as it could possess no qualities, attributes or features.

As before stated, there can thus be no region out in space beyond the cosmos, where there is nothing; for a nothing having no dimensions can not bound a cosmos having dimensions. It could in no way limit existence or in any way displace anything that is. If the cosmos is infinite, having no limits it can not be limited by a nothing; while if it were finite, it would possess finite dimensions, and could not be bounded or limited by a nothing having no dimensions. Therefore everywhere there is something. That is, the All is infinite and without end in space, and would seem to be eternal, or without end in time. In fact, both time and space are parts of the All, or different modes of manifestation of the All to our senses.

Then, there can be no end to space, or more correctly speaking to existence, in any of the infinite directions of space. If we could travel in any direction, at any speed however great, no matter how long we might continue such a journey, we should never arrive at a limit or boundary. It would then seem that non-existence is an impossibility. Existence is positive, is actual, and in no way can it change into non-existence. Such a change would be an absurdity. We came out of the All at birth, and return into it at death. The All is infinite in both space and time, and possibly, "in diversity in the same space at the same time."

Things that are, neither came out of nothing nor can they return into nothing. Every thing that is, was built or formed out of what previously existed; this means spirit as well as matter, soul as well

as body. The fact of the existence of a thing proves at least the permanence of that of which it is formed or constructed; and thus are we ever more firmly convinced of the permanence of that which is.

III.

Why this mystery? How came it so? The world-old problems are still with us. How came we here? Why do we exist? What is our destiny?

We awaken into existence to find ourselves on a monster globe rushing through space at inconceivable speed, in a well-defined path or orbit. We also learn that the world and its orbit, together with all the sister planets and the parent sun, are falling into the unknown depths at a terrific velocity; that this fall has been going on since the world began. We are descending towards a point near the giant sun, Vega. Our actual path is a huge spiral.

Never, since the world began, has there been one moment of quiet or rest; but we have been continually falling into the "deep that is infinite," into the "ocean that is without bottom and without shore." While we continue this terrific journey into the unknown abyss, the mighty River of Time is rushing along, bearing us, the world and all we know, like ephemeral creatures on the crest of a wave called the present, to a destiny no man can foresee. Yet, all things seem to have a purpose in fulfilling their destiny. Let us hope that our existence, also, is not without a purpose.

The old questions, How came this mystery? How came we here? Why do we exist? What is our destiny? must ever press for solution as long as man has a mind to think with, and a desire to live. As long as man shudders at the thought of annihilation of self, will he struggle to solve these problems.

Science, in attempting to answer the question, How came we here together with this world? has become involved in innumerable controversies with religion. Yet the difference between them, if viewed impartially, is only a difference of detail. They are both agreed that we and the world were not always here. Consequently, we must have appeared out of the void at some definite time. That we did not come by any power of our own, both are agreed. Therefore, we were produced by a power other than ourselves. That same power will take us away again, and that power holds our destiny in the hollow of its hand.

Whether that power is, as religion has taught, a concrete personal being, that has fashioned this world, our bodies and our souls

as well, outside of itself, as separate existences from itself; or whether, as science is teaching, that power is not a concrete being but is a power immanent within all concrete things and beings, is uncreate and uncreatable, is without form but perfectly real; yet, we must all admit that this power, whatever it is, was perfectly capable of producing us and the world.

The method pursued makes little difference to us; the results are the same. We are here. This power has created us. What our destiny is to be, human eyes can not yet see. We can only hope. Science gives us a faith. We were not made of nothing. "That which is now us, was before, and will be after us." "The All-existence will not lose an iota at our death."

Positive existence can not be changed into nothing. It must be changed into something else. The change is merely transformation. Our beginning was transformation, so will be our end. Death then is transformation. This means, for both body and soul.

"There is one reality. Viewed from different standpoints it presents different aspects to us." "Viewed from the outside, the aspect is material. It is matter in motion." From the outside our beings have this aspect: "They appear as an object in the objective world, moving about." But, viewed from the other side, from the inside, the aspect is that of spirit. Here we find only thought and feeling. Joseph Le Conte says, when we look within ourselves, we experience by introspection, only thought and feeling. That this is the only place in nature where we do get behind matter, and here we find only spirit.

These are the two sides of reality, but, as Dr. Carus says, we must remember that they are both merely aspects of one reality viewed from different standpoints. "The spiritual side of man, that is the subjective side, his thinking and feeling, his innerness, is just as real as is his material, or objective side." Both belong to one reality; they arise together and go hand in hand. At death they partake of the same destiny. Neither can be destroyed; only transformation can take place.

The formal element of all existence is subject to continual change. No form or structure can be permanent. It is the structure of ourselves that is changed in death. Death is a transformation of the formal element of existence. Existence of itself is permanent, but its formal element is in a constant flux. Its structures are continually modified and changed. Thus it is that all compounds will be dissolved again. All things that can be changed, will be

changed some time. No concrete thing can be permanent. No structure can endure.

If forms were permanent, no change could ever take place. There could be no motion. There would be no causes, and no effects. Existence would be one vast tomb, where never an event could occur, and where monotony would be so terrible, that immortality would be a curse. In an existence where form is one of its features, it is well that such existence should be a perpetual motion within itself, and that the law of eternal change should prevail.

We must not forget that all structures have their subjective side. Our souls are the subjective side or innerness of special structures, of special forms of existence passing through a series of changes of a special form. The existence out of which both the subjective and objective sides of these special structures are formed, or created, is permanent. All existence has its subjectivity, or innerness within itself. When water is brought into contact with calcium carbide, and the love of the hydrogen atoms is felt for the atoms of carbon, and they rush together and unite, forming a new compound; I believe there is a subjectivity, or innerness within these atoms which directs their action. This subjective side of nature which corresponds to the spiritual in man, is just as real, and just as permanent, as is the objective side, the outside, or material side of existence. Both sides are but different views of one reality, as Dr. Carus has so ably demonstrated.

"Whither do we fare?" The great River of Time will some day bear us to a region where the answer awaits us. But we can rest assured, we are not borne toward that hideous monster, annihilation. Rather let us hope that the transformations which are to come, will not be as a sleep deep and profound, but "as a dream filled with pleasant visions." Yes let us hope; although out of the stillness of the depths no voice ever comes, and our riddle remains unsolved.

"The heavens are our riddle; and the sea,
Forested earth, the grassy rustling plain,
Snows, rains and thunders. Yea, and even we
Before ourselves stand ominous in vain!
The stars still march their way, the sea still rolls,
The forests wave, the plain drinks in the sun,
And we stand silent, naked—with tremulous souls—
Before our unsolved selves—we pray to one
Whose hand should help us. But we hear no voice;
Skies clear and darken; the days pale and pass,

Nor any bids us weep or bids rejoice.
 Only the wind sobs in the shriveling grass—
 Only the wind—and we with upward eyes
 Expectant of the silence of the skies."—*Herbert Bates.*

DAVID P. ABBOTT.

OMAHA, NEB.

ESPERANTO.

Esperanto, a universal language invented by Dr. Zamenhof, a Russian, and advocated mainly in France, has at present outdone Volapük, and enjoys a great popularity among the circles of those who favor the adoption of an auxiliary international language. We had some correspondence on the subject with Monsieur Couturat, and have discussed the problem in former numbers of *The Monist*. Though we do not say that it is impossible to construct an artificial language which would be simpler than any of the natural languages, we believe that it would be easier for mankind to adopt the simplest natural language, and accept it as the international medium. It seems to us that among all the languages of the world, English possesses the greatest chance of becoming a medium of international speech. In fact it is the only language which possesses an international character. English is spoken not only in Europe, but in Canada, United States, Australia, South Africa, and constitutes the natural medium among the different races of India, among the Europeans in China and almost any other country of the globe.

We are not blind to the objections that can be made to the adoption of English as an international language, but we believe that English can most easily be changed into a shortened English, a language built after the pattern of the English, utilizing its simplest constituents, endings, grammar and syntax, and avoiding the difficulties of spelling.

The objections made by the advocates of a purely artificial auxiliary international language are mainly directed against the English nation, claiming that it would be materially benefited by forcing its speech upon other countries. Further there is the *th* which is difficult for the continental European to pronounce; and a few other inconveniences in pronunciation exist, none of which are too strong to be overcome. Whether or not the English will conquer in the long run, or whether Esperanto will gain the victory remains to be